Early Cancer Detection Takes Center Stage

Tony-nominated actress Valisia LeKae used her voice to sing hit songs from the 1960s, recently starring as Diana Ross in “Motown: The Musical” on Broadway. Now, two months after receiving a diagnosis of ovarian cancer, and stepping down from her leading role to receive treatment at The Mount Sinai Hospital, Ms. LeKae is using her voice to speak about the importance of early cancer detection.

“I have a new role in front of me,” says Ms. LeKae, who is a patient of David A. Fishman, MD, Professor of Obstetrics, Gynecology and Reproductive Science at Icahn School of Medicine at Mount Sinai, and Director of Gynecologic Oncology.

New Clues to Age-Related Cognitive Decline

Mounting evidence suggests that age-related cognitive decline is caused not by nerve cell death, as it is in Alzheimer's disease, but from a disruption in synapses, the structures that allow a nerve cell to transmit a signal to other nerve cells. Demonstrating these synaptic disruptions in the prefrontal cortex of the brain, and linking such disruptions to synaptic health, has been challenging for scientists—until now.

Researchers at the Icahn School of Medicine at Mount Sinai recently made new and significant advances to support this theory. With the use of high-powered electron microscopy, they were able to associate structures within nerve cells...
Research at Mount Sinai. “One that I don’t think will stop when I’m cancer free. I can inspire people by sharing my story with them. I want to encourage young people to know their bodies and be aware of symptoms that last more than a week. Then they should talk to their doctor.”

Ms. LeKae did not have any known risk factors for ovarian cancer. She is 34 years old, slim, and African American. She had no family history of ovarian or breast cancer, which can be related. But she did have a small cyst on her right ovary that was detected in 2012 and diagnosed a year later, after more than tripling in size.

The diagnosis of a rare form of ovarian cancer found in a microscopic mass within the cyst shocked Ms. LeKae. It was later reconfirmed by Dr. Fishman, a National Institutes of Health-funded researcher and clinician who founded the National Ovarian Cancer Early Detection Program in 1999, and has pioneered the use of ultrasound as an effective method of detecting ovarian abnormalities.

“I called Dr. Fishman on Monday, December 2, and he saw me on Tuesday,” says Ms. LeKae. “He immediately calmed me down when I walked into his office, and he told me everything I needed to do. He had a plan in place.” It involved preserving her fertility and aggressively combating the cancer. So far, Ms. LeKae reports that she has responded well to her chemotherapy regimen.

Ms. LeKae is “heroic for using her celebrity to help other people,” says Dr. Fishman, who hopes her experience will encourage women to have their ovaries examined if they experience persistent pelvic discomfort for more than a week. He says the ovaries are often overlooked.

In addition, he plans to change the name of his program to the National Ovarian Risk Assessment Program, which reflects the goal of using molecular biology and genetics to identify women at risk, before they develop ovarian cancer. In this endeavor, he is working with Brian D. Brown, PhD, Associate Professor of Genetics and Genomic Sciences at Icahn School of Medicine at Mount Sinai, and other researchers at The Tisch Cancer Institute and around the country, to examine the role of immune-based interventions.

Approximately 22,400 women in the United States are diagnosed with ovarian cancer each year. If the disease is caught early, at stage 1, the five-year survival rate approaches 90 percent. If it is diagnosed at an advanced stage, the five-year survival rate slides to about 15 percent.

Ms. LeKae is “optimistic that Valisia will do very well.” All of her tests have come back negative.

Dr. Fishman says, “I am optimistic that Ms. LeKae has a good chance of surviving her cancer.” All of her tests have come back negative.

Suffering from cuts and bruises, and a laceration to his head, Mr. Williams was treated at St. Luke’s Hospital for nine days before being released. Orlando was always at his side.

“Miracle on 125th Street”

It was a “miracle on 125th Street” last December, when Cecil Williams, who is blind, temporarily lost consciousness and fell onto the subway tracks at the Harlem station with his loyal service dog Orlando close behind. Onlookers frantically summoned help. Together, the two survived in the space between the tracks as the train pulled in above them.

“When Mr. Williams presented, we evaluated him with the trauma service to ensure he had no life-threatening injuries, which, fortunately, he did not,” says Jeffrey Rabrich, MD, Medical Director of the Emergency Department at St. Luke’s Hospital, who was involved in Mr. Williams’ care. “We treated him for his head injury and admitted him for observation. We were happy to see that Orlando was uninjured when he arrived in the Emergency Department, as well.”

For additional information go to www.mountsinai.org/gynonc.
New Clues to Age-Related Cognitive Decline (continued from page 1)

and synapses—mitochondria—with the disruption of these connections. Mitochondria are considered the cell's energy source. In a second finding, they were able to restore healthy synapses and improve a type of short-term memory, known as "working memory," with estrogen treatment. To function properly, working memory relies on a complex arrangement of synapses to activate nerve cells in the brain, a process that is extremely energy-demanding. The results were published in the January 7, 2014 Proceedings of the National Academy of Sciences.

“We are increasingly convinced that maintenance of synaptic health as we age is critically important in preventing age-related cognitive decline,” says John H. Morrison, PhD, Dean of Basic Sciences and the Graduate School of Biomedical Sciences, the senior author of the study.

Dr. Morrison is also the W.T.C. Johnson Professor of Geriatrics and Palliative Medicine (Neurobiology of Aging), and Professor of Neuroscience.

Researchers studied the working memory of 29 young and aged rhesus monkeys, targeting mitochondria within key synapses that are vulnerable to aging and needed for optimal cognitive function. After the monkeys were trained to perform a working memory test, the research team used electron microscopy to reconstruct synapses in order to investigate the number and type of mitochondria in nerve terminals, which form synapses. Their conclusion: Poor working memory was associated with a higher incidence of malformed mitochondria in nerve terminals, which formed smaller and weaker synaptic contacts than those containing healthy mitochondria.

“We were excited to see that the occurrence of these malformed mitochondria could be reversed with estrogen, which has known antioxidant effects, suggesting that hormone replacement therapy may benefit cognitive aging,” says Yuko Hara, PhD, Assistant Professor, The Friedman Brain Institute and Fishberg Department of Neuroscience. Dr. Hara is the lead researcher of the study.

Their findings also have implications for neurodegenerative conditions, such as Alzheimer’s disease. “In many of these disorders, mitochondrial problems occur long before the onset of nerve cell death and clinical symptoms,” says Dr. Morrison. “Early interventions targeted at maintaining healthy mitochondrial structure and function may be keys in preventing cognitive decline.”
Faculty Headshot Session

Department faculty members who need a photo for their Web profiles are requested to attend the upcoming faculty headshot session. There is no appointment necessary. Contact Susanne Erni at 212-731-7821 for additional details.

Thursday, January 30
9 am – 4:30 pm
The Mount Sinai Hospital Campus
Guggenheim Atrium
Under the stairs

Grand Rounds
Preventive Medicine

Arthur L. Frank, MD, PhD,
Chair, Department of
Environmental and
Occupational Health, Drexel
University School of Public
Health, presents “Asbestos:
The Old Old, the New Old,
and the Unchanging.”

Friday, January 24
9:30 am
The Mount Sinai
Hospital Campus
CAM Building, D5-122

Grand Rounds
Cardiology

Javier Sanz, MD, Director,
Clinical Cardiovascular
MRI and CT Program,
The Mount Sinai Hospital,
presents “Evaluation of
Cardiomyopathies with
Cardiac MRI.”

Wednesday, January 29
8 – 9 am
St. Luke’s Hospital
Muhlenberg Auditorium
Teleconference to Roosevelt
Hospital Conference Room 10 B

Grand Rounds
Medicine

Srinivasan Paramasivam, MD,
Hyman-Newman Institute for
Neurology and Neurosurgery,
presents “Advances in
Neuroendovascular Surgery.”

Thursday, January 30
7:45 – 9 am
Roosevelt Hospital
Conference Room 10 B
Remote site: St. Luke’s Hospital
Muhlenberg Auditorium

Friedman Brain Institute
Translational Neuroscience Seminar Series

Francesca Gilli, PhD, MSc,
Senior Research Associate,
Neurology, Geisel School of
Medicine at Dartmouth, presents
“The Effects of Pregnancy on
Neuroimmunological Diseases.”

Thursday, January 23
1 pm
The Mount Sinai
Hospital Campus
Hess Center, Seminar Room A

Become a Mentor!

Are you interested in helping the Center for Excellence in Youth Education (CEYE) increase diversity in science and medicine by mentoring students in high school and college? If so, you would be joining the more than 100 Mount Sinai physicians, scientists, nurses, social workers, lab technicians, residents, and postdoctoral students who have invited students to shadow them in their jobs over the last two years. The students are selected after a competitive application process and must maintain a B average throughout the duration of the program. CEYE is sponsored by the Center for Multicultural and Community Affairs at Icahn School of Medicine at Mount Sinai. To learn more, contact Alyson Davis, MSW, at 212-241-7655 or alyson.davis@mssm.edu.

Olga Camacho-Vanegas, PhD, Assistant Professor, Department of Genetics and Genomic Sciences, right, mentors high school student Vaishvi Jhaveri, who participates in Mount Sinai’s Center for Excellence in Youth Education program.

New Mount Sinai Health System Wellness Program

Mount Sinai’s “Be Well” initiative, and the Beth Israel Medical Center, and St. Luke’s and Roosevelt Hospitals “CHP Fit” wellness programs are combining, and the new entity needs a new name. The integrated program will include features of both initiatives, and needs a name that will promote a culture of health throughout the Mount Sinai Health System. Employees can submit their ideas for the new name by Friday, January 31, at the following link: www.surveymonkey.com/s/S3SBW5D. The Wellness Committee will announce the new name in February and the winner will receive a gift.

Announcement